

REMARKS

Favorable reconsideration and allowance of this application are requested.

1. Discussion of Claim Amendments

Further clarification has been made to the prior pending claims by way of the amendment instructions above. Specifically, claim 1 has been clarified to the emphasize that two *different* melamine-containing flows from two *different* processes for making such melamine – i.e., one from a low-pressure gas-phase process for making melamine from urea and another from a high-pressure liquid-phase process for the preparation of melamine from urea – are combined and cooled so as to form the solid particulate melamine. Conforming amendments have been made to the other prior pending dependent claims.

Claims 14-21 are new and are based on disclosure appearing in the originally filed specification at page 5, lines 3-29. Thus, claims 14, 15, 17, 18 are directed toward spraying liquid ammonia as a coolant as disclosed on page 5, lines 16-19 and 28-29. Independent claim 16 emphasize an embodiment whereby respective *gaseous* and *melt* melamine-containing flows are provided, with the latter melt flow being sprayed into contact with the other gaseous flow so as to form a mixture as disclosed on page 5, lines 26-28. Independent claim 19 and claims 20-21 dependent therefrom emphasize an embodiment whereby one of the first and second melamine-containing flow is employed as a coolant so as to simultaneously cool the mixture of the combined flows and wherein the coolant flow is aqueous and may be made from a low pressure gas-phase process. (See page 5, lines 3-13.)

Therefore, following entry of the amendment instructions above, claims 1-5 and 7-10 and 12-21 will remain pending herein for consideration.

2. Response to 35 USC §103(a) Rejection

The Examiner has persisted in his rejection of prior claims 1-5, 7-10 and 12-13 under 35 USC §103(a) as allegedly being “obvious” and hence unpatentable over Coufal in view of Van Hardeveld (USP 4,408,046). In this regard, the Examiner seems to be of the opinion that applicant is merely claiming the mixing of two different melamine-containing streams and has therefore apparently not given any patentable weight to the fact that the two “different” streams are provided by two “different” processes for the production of melamine from urea, namely a stream provided by a low-pressure gas phase process and a stream provided by a high-pressure liquid-phase process. Specifically, the Examiner asserts that:

“[M]ixing two stream [sic] of melamine for further processing is within the skill set of one trained in the art. Coufal teaches mixing of two melamine [streams] and [Van Hardeveld] clearly provides the processing from both high pressure process and low pressure process....Thus one trained in the art would be motivated to mix melamine either from the same stream or otherwise and process the melamine thus mixed. Hence *simply mixing of two streams of melamine* by itself cannot be deemed as inventive step and such a process would be obvious.” (Official Action dated November 26, 2008 at page 6, lines 9-16, emphasis added.)

Applicants suggest however that the Examiner’s rationale is based on an erroneous premise. Specifically, the Examiner presumes that an ordinarily skilled person would consider it obvious to mix two different melamine-containing flows from two different processes since mixing of streams generally is known. As will become evident from the following discussion and the evidence provided herewith, the skilled

person would however actually be prejudiced against combining two different melamine-containing flows from two different processes for the production of melamine from urea.

The Examiner's attention is directed in this regard to the accompanying factual Declaration of Dr. Tijen Tjioe, a named co-inventor of the subject invention. There, Dr. Tjioe (a person self-evidently of greater than ordinary skill in the melamine production art) makes it abundantly clear that it is well-known to the skilled person that impurities have an unpredictable and disturbing effect on crystallization and precipitation processes. Melamine crystallization and precipitation process designs are based on experience and can be only operated and controlled within a relatively small window of composition and process parameters so as to obtain acceptable ("on-specification") product. Thus, if the amount of impurities is outside the operating window, the process gets out of control and which in turn results in unacceptable ("off-specification") product being made.

Combining melamine-containing flows from two different processes for making melamine means that the amount and composition of the impurities in the respective flows will change and that the composition of the combined stream of melamine-containing flows will then be outside the original operating window for each of the respective melamine-production processes.

Thus, the ordinarily skilled person in the art of melamine production is well aware that the introduction of "strange" components into a melamine-containing flow is strictly undesirable. This is especially true for combining a melamine-containing stream from a low-pressure gas-phase process with a melamine-containing stream from a high-pressure liquid-phase process as is defined by the pending claims of the subject application, since the composition and amount of the impurities in such streams differ substantially one from the other.

Turning attention to Coufal et al, Dr. Tjioe notes that such reference describes a cooling process for melamine melt using, amongst others, solid melamine. There is however no description in Coufal et al of the source of the solid melamine that is used as the cooling medium. The purpose of the addition of solid melamine according to Coufal et al is for cooling the melamine or for serving as crystallization nuclei. From a processing viewpoint, it would be self-evident that the most convenient way to obtain the solid melamine cooling medium is to use solid melamine from the same process that makes the melamine melt to be cooled. Dr. Tjioe therefore concludes as a person of greater than ordinary skill in the melamine production art and an understanding the purpose of the description of Coufal et al, that the most likely source for the solid melamine employed as the cooling medium or as a crystallization nuclei that is disclosed in Coufal et al is the same process which makes the melamine melt intended to be cooled. That is, the melamine melt to be cooled and the solid melamine which serves as the cooling medium or crystallization nuclei must be obtained from the same production process according to Coufal et al.

At column 3, lines 1-5 of Coufal et al, the formation of new solid melamine particles in the fluidized bed is described and no solid melamine needs to be fed. Dr. Tjioe notes that such a description in Coufal et al further underscores his conclusion that Coufal et al does not teach or suggest to combine two streams from two different processes for making melamine from urea, let alone to combine melamine-containing streams made respectively from a low-pressure gas phase process for the preparation of melamine from urea and a high-pressure liquid-phase process for the preparation of melamine from urea as defined by the claims of the subject application.

The fact that Van Hardeveld discloses that different processes are known for making melamine from urea are known is not the issue. Indeed, applicants readily admit that a low-pressure gas-phase process for the preparation of melamine from urea and a high-pressure liquid-phase process for the preparation of melamine from urea are

known. What is unknown -- and what the ordinarily skilled person would be prejudiced against for the reasons noted in Dr. Tjioe's Declaration -- is that melamine-containing flows from each such different processes could be combined so as to make acceptable melamine product.

As such, an ordinarily skilled person would *not* obviously combine Coufal and Van Hardenveld in the manner contemplated by the Examiner. Withdrawal of the rejection advanced under 35 USC §103(a) is therefore in order.

3. Fee Authorization

The Commissioner is hereby authorized to charge any deficiency or credit any overpayment in the fee filed, or asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by the attorneys of Customer No. 23117 to Account No. 14-1140.

Respectfully submitted,

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